TRANSBOUNDARY GAS GROUP MEETING NOTES

SANDMAN INN
CASTLEGAR, B.C.

October 23-24, 2001

Day 1: October 23, 2001

1. Greetings and Introductions.

Transboundary Gas Group co-chairs Mark Schneider and Les Swain, together with facilitator John Palensky, led a round of introductions and a review of the agenda. Palensky also thanked Gary Birch for all of his hard work in organizing this meeting.

2. Project 1: Characterize Transboundary Existing Gas Conditions.

A. Canada -- TGP and Fish Distribution. Dana Schmidt led this discussion. He worked from a series of overheads, titled "Total Gas Pressure and Fish Distribution Investigations in Canadian Waters of the Columbia River Basin;" copies of this presentation are available from Schmidt upon request.

Schmidt explained that his company has been contracted to produce a portion of the CRIEMP biological study, including TGP modeling work and an assessment of fish distribution superimposed on TGP "hot spots," over time. The geographic scope of this portion of the study is the Cora Lynn tailrace down to the Waneta Dam tailrace, just above the confluence of the Pend Oreille River with the Columbia River.

Schmidt touched on the various TGP hot spots in this reach, noting that below Lower Bonnington Dam, TGP levels can reach 150%. Schmidt showed some examples of the calculations that drive the mass-balance model used in this study, then referenced new spill patterns designed to dissipate gas, comparisons of model outputs and actual monitoring data, fish habitat requirements by species and reach, and risk ratings for each species by reach.

In response to a question, Schmidt said his report will be sent to CRIEMP within two weeks; it should be ready for general distribution within 45 days after that. He cautioned that these results are conservative, because the true test of TGP risk is the exposure duration of the fish themselves, rather than these baseline measurements of fish presence in TGP hot spot areas. We do not see much in the way of TGP symptoms or mortality in fish, he said, primarily because there are ample opportunities for the fish to seek refugia where gas levels are lower.

B. Canada – Gas Saturation at Revelstoke and Mica. Cynthia Powell briefed the group on results from her agency's study of gas saturation in the Revelstoke and Mica systems, working from a series of overheads (available via email upon request from Powell). She touched on the specifications of Mica Dam, TGP measurements below the project (typically 103%-112%, can reach 125%), an explanation of the "synchronous condense" operations mode sometimes used at Mica and its negative effects on fish (particularly returning kokanee spawners), TGP sources at Mica, Mica operations and TGP production, the recent Mica operations test and results, Mica TGP impacts, steps taken to mitigate TGP production at the project, and the results of that mitigation (primarily, that no incidents of fish mortality have occurred since these steps were implemented).

Powell then moved on to TGP issues at Revelstoke Dam, downstream from Mica. She described the project specifications, TGP production at the project (typically between 93% and 111%, has occasionally been measured as high as 138%), Revelstoke TGP sources, and steps taken to mitigate TGP production at the project. She then offered a series of summary points.

One American participant noted that his agency has measured TDG levels inside a draft tube, similar to the tubes at Mica and Revelstoke, during a "spinning reserve" operation (equivalent to synchronous condense mode); those levels can reach as high as 200%, which accounts for the near-instantaneous fish kills that have occurred in the past at Mica and Revelstoke.

C. United States – Success in Forming a Support Committee and Activities Related to Undertaking Project 1. Chuck Rice distributed copies of a sample memorandum of agreement between COE, USBR, Grant County PUD, Pend Oreille PUD, Seattle City Light, Avista Corporation, Chelan PUD, Douglas PUD and BPA to provide support for the activities of the Transboundary Gas Group. He carefully emphasized that this document is for discussion purposes only, and is not to be construed as an agreement, or even the draft of an agreement, between the parties named.

Rice explained that he himself developed this MOA, based on a similar document developed by the Canadian participants in the TGG. He suggested that the TGG participants read through the mock MOA on their own, noting that the list of potential MOA participants includes mainly those agencies responsible for abating gas on the U.S. side of the Columbia River system.

Essentially, he said, this is a placeholder, which establishes a group, the Coordinating Committee, which would be tasked with developing task statements (see document for details). Rice spent a few minutes going through some of the issues and problem areas in this document (highlighted in italics), then noted that, if this agreement is to go forward, it will require an overarching agreement between the U.S. and Canadian governments, which means the State Department would need to get involved.

For this to go forward, Rice continued, we would need to form a committee, including all parties who would actually be signing the document, to massage and develop language they can all live with. I think it is worthwhile to try to get that to happen, he said, and to develop a structure that will allow us to implement the actions that will benefit us all. That being said, he said, it probably wouldn't be appropriate for me, as an EPA employee, to take the lead on that; that task would more properly fall to representatives of those agencies which will actually be putting up the money.

Mary Lou Soscia noted that MOA development almost always takes longer than anticipated; what is the potential that people here can male an ad hoc commitment to work on the cooperative actions this group is famous for, she asked, even as this MOA and the U.S./Canada agreement are being developed? Rice replied that his hope is to develop a signed MOA within a year; there is no reason, however, why the various TGG participants couldn't agree to abide by the main provisions of such an agreement, even if the formal MOA has not yet been signed.

Schneider suggested that the group revisit the next steps for this strawman MOA during one of the scheduled general discussion periods later today or tomorrow; there was general agreement that this would be appropriate.

D. United States – Douglas County PUD 2001 Monitoring Program. Rick Kline described Douglas PUD's 2001 monitoring program for the group. Working from a series of overheads (copies of which are available from Klinge upon request), he touched on the physical characteristics of Wells Dam (a unique hydro-combine design), TDG values monitored at the project in 2001 (ranged between 100% and 112%), a comparison of 2001 TDG values at Wells compared to historic TDG values, and some sample temperature and TDG monitoring data, among other topics. He noted that the low TDG values seen this year mainly had to do with low flows and cooler-than-normal air and water temperatures. He added that dissolved oxygen concentrations were higher than normal, probably because of increased macrophyte growth this year.

E. United States – Grant County PUD 2001 Monitoring Program. Cliff Sears briefed the group on results from Grant County PUD's monitoring programs at Priest Rapids and Wanapum Dams in 2001. This year, he said, we did spill for fish passage during the spring (April 19-June 15) and summer (June 16-July 31), when spill levels were lower – 31% and 24% of total river flow at the two projects, respectively, due to drought conditions in the system.

Sears described the fixed monitoring system Grant used in 2001, then touched on the percentage of time spillway discharge was under the 120% tailrace (100% at Priest Rapids, 99% at Wanapum) and 115% forebay (slightly lower at both projects) Washington State TDG standards. TDG levels maxed out at just over 119% at Wanapum and 117% at Priest Rapids in 2001.

The spill season ended on July 31, Sears said; we did notice that TDG levels remained

high in August, despite the fact that no spill was occurring – up to 112% on the 12-hour average. On the biological monitoring front, Sears said there was a low incidence of GBT signs, as well as low severity of symptoms, in 2001.

F. United States – Chelan PUD 2001 Monitoring Program. Kelly Hampton described Chelan PUD's 2001 monitoring at Rock Island and Rocky Reach Dams; there isn't much to report, she said, because we spilled only during the spring, and only at Rock Island Dam. We saw an 8.4% increase in TDG levels between forebay and tailrace at that project during the spill season; transect data also showed a slight TDG gradient below the project during the spill season. Hampton said there were a few glitches in Chelan PUD's data collection this year, resulting in a few gaps.

Chelan is in the process of installing a prototype flow deflector at Rock Island Dam, Hampton said, adding that Chelan will be testing and monitoring TDG levels once the deflector is installed. The Waterways Experiment Station will be looking into the development of a prototype for Rocky Reach in 2002, she said, adding that incoming TDG at Rock Island averaged more than 107%, puzzlingly high given the fact that Wells Dam didn't spill very much in 2001.

G. Federal Columbia River Power System Monitoring Program. Dick Cassidy led this presentation; working from a series of overheads (available from Cassidy upon request), he touched on 2001 runoff volumes and percentages of normal in various Columbia River subbasins (48%-59%), 2001 spill at McNary, John Day, The Dalles and Bonneville Dams, 2001 TDG values monitored in the FCRPS (no exceedences of the 115% forebay or 120% tailrace TDG standards), and 2001 water temperatures (up to 25 degrees C in the Snake River and 24 degrees C in the Lower Columbia). Cassidy noted that the Corps of Engineers will be providing a final report containing all of these data and observations to the states of Oregon and Washington later this year.

H. General Discussion and Summary from the Steering Committee. Palensky noted that the stated purpose of this portion of the agenda was to compile and characterize existing and new dissolved gas data for the transboundary area for input and calibration of screening models. This being the case, he said, where do we go next with this information?

Soscia noted that the TGG is essentially an ad hoc group; to formalize this dialogue, she said, we will need to go through the State Department. We have made a good-faith effort to continue this dialogue, within the legal limits imposed on us, she said; we are continually astounded at the number of people who show up for these meetings. EPA is certainly interested in continuing to work cooperatively with those of you on the Canadian side of the border, she said; every time we get together, we take another informational step forward.

Klinge said Douglas PUD is interested in the issue of Okanogan sockeye, a transboundary species whose protection will require international cooperation. It is possible, however, to sometimes sneak through the back door and make substantive things happen without

a formal MOA being in place, Klinge noted -- for example, the Colville Tribes have reached across the border to the First Nations on the sockeye issue.

Swain said that, in terms of what happens next to the data, that pertains to Task 2, getting the data in shape for use in screening models. There are various gaps that continue to exist, he said, notably the dynamics of gas production in Lake Roosevelt.

Schneider summarized the morning's presentations by saying he had heard several pieces of information that will change the way he does his job. To me, he said, the contacts and relationships made and developed during these meetings are invaluable. Jim Irish observed that, in his opinion, there still isn't enough information about the real-world biological effects of elevated dissolved gas on fish; Schneider took issue with this assertion, noting that there are five years of in-river biological monitoring data available. While that may not be the end-all and be-all, he said, it does give us a partial picture, at least for the listed stocks.

Is that biological data something that would be helpful to have a presentation on at the next meeting? Palensky asked. I would definitely like to get into the dynamics of Lake Roosevelt at the next TGG meeting, Les Swain said.

3. Project 2: Identify Data and Information Needs for Screening Models.

A. Canada – Status of Access Database. Schmidt went through a series of overheads, titled "Total Dissolved Gas Pressure Database Summary for the Lower Columbia, Kootenay and Pend Oreille Rivers (1995-2000)"; copies of this presentation are available from Schmidt upon request.

Schmidt noted that this is another CRIEMP project, the main thrust of which is to assemble all of the existing Canadian monitoring and operational data from the past six years into a useable database. He said the monitoring effort to date has been somewhat spotty, given the fact that monitoring has generally been done for a specific purpose, rather than blanket monitoring as a matter of course. The primary purpose of this database is to inform the development of predictive TGP models, particularly for Keenleyside, Brilliant, Waneta, Seven Mile and Boundary Dams.

Schmidt touched on current fixed monitoring locations in the Canadian portion of the Columbia Basin; the database structure (based on Microsoft Access Version 2000), the size of the data set (more than half a million records), the TGP parameters (data fields) of the data set, sample data from the database, discharge and operations parameters, complications (variations in the resolution of TGP and facility operations and discharge data, quality of TGP data and requirements for error check, unit conversion from imperial to metric and confusion when comparing Canadian and US databases) and the following summary points:

- The database structure will be submitted shortly to the TGG for comments

- Any structural revision will be incorporated and all of the years of available data will be included for the sites listed

How will the database be updated? Swain asked. I agree that updating will be needed, Schmidt replied; the biggest challenge, from our perspective, is obtaining the operational data – it is very time-consuming to type in four months of hourly operating data, as you can imagine. Andrea Ryan suggested that database maintenance would likely be something for the subcommittee to take up.

Are there other critical data gaps we need to try to fill next spring? Swain asked. The one that stands out, to me, is Waneta, where the existing data is insufficient to develop a truly predictive model, Schmidt replied. It depends on what you plan to do with the database, he said; one other area where we could use more information is daily variation in tailrace TGP levels at Seven Mile and Boundary Dams. In response to a question from Schneider, Schmidt reiterated that he will be happy to distribute the completed database to the other TGG participants as soon as CRIEMP approves it.

B. United States – Data Acquisition Activities. Sharon Churchill was unable to attend today's session, due to illness; for that reason, this agenda item was not covered today.

4. Upper Columbia TDG Modeling.

See Agenda Item 7, below.

5. General Discussion and Summary from Steering Committee.

General discussion was deferred until the end of today's session.

6. Project 3: Identify Structural and Operational Alternatives for Transboundary Gas Planning.

A. Canada – Preliminary Review of Alternatives for Keenleyside Dam. Sherry Dunlop led this presentation, working from a series of overheads titled "Review of TDG Mitigation Measures (Keenleyside Dam)." Copies of Dunlop's presentation are available from her upon request. Dunlop touched on the background and specifications of Keenleyside, the general approach used to develop the suite of TDG mitigation measures for Keenleyside, the requirements for TDG mitigation analysis, the physical structure of the dam, the selection of mitigation options for review, the review process applied to the mitigation options, the winnowing of the 11 original alternatives down to a list of four (spillway deflectors, operational changes, matrix turbines and raised stilling basin), next steps (a detailed assessment of at least the first two alternatives) and lessons learned:

- The success of TDG mitigation measures is dependent on project-specific details – what works one place may not work another

- Things are not always as they appear from the surface. Detailed understanding of the design of the dam and its discharge facilities is imperative
- Know the basics. Understand the hydraulics at full range of flow conditions, know the physics of TDG production, understand why the options will and will not produce TDG.

Gary Birch noted that, in all likelihood, operational changes will prove to be the only practicable gas abatement option at Keenleyside.

7. United States – Columbia/Snake River Total Maximum Daily Load.

Mary Lou Soscia led this presentation, working from a series of overheads titled "Columbia/Snake River Mainstem TMDL." Copies of her presentation are available as Enclosure D. She explained that the TMDL (Total Maximum Daily Load) is a major effort to improve water quality in the U.S. portion of the Columbia Basin, involving a wide array of federal, state and tribal entities. Soscia's presentation touched on the following main areas:

- The geographic scope of the TMDL (Columbia River from the Canadian border to the Pacific; Snake River from its confluence with the Salmon River to its confluence with the Columbia River)
- The various TMDLs included in this effort (Columbia/Snake mainstem temperature TMDL, Lower Columbia total dissolved gas TMDL, Lake Roosevelt/Mid-Columbia/Snake River TDG TMDL)
- Other related activities (Endangered Species Act, 2000 FCRPS Biological Opinion)
- Clean Water Act requirements
- What is a TMDL? (a sum of allowable pollutant loads in a given body of water)
- State and tribal agencies with a CWA role in the project areas
- Columbia/Snake River 303 (d) listings for temperature
- Columbia/Snake River 303 (d) listings for dissolved gas
- The roles of the key players in the process
- Consultation and Coordination with Columbia Basin tribes
- The Lake Roosevelt TDG TMDL
- Upper/Mid-Columbia TDG modeling
- TDG spreadsheet models
- Coordination efforts
- Outreach efforts
- The technical process for TMDL development
- Defining the numerical targets for the TMDL
- The identification of sources and evaluation of linkages of sources to river response
- Where to go for more information

Rick Parkin and Chris Maynard also assisted Soscia with this presentation, with Parkin describing EPA's modeling and water temperature TMDL development efforts in more detail. Maynard provided an in-depth look at the development of the dissolved gas TMDL. The bottom

line, he said, is that, based on what we know now, it will not be possible to meet the 110% TDG standard and provide the fish spill called for in the 2000 FCRPS Biological Opinion; that means we're going to have to make some changes to our application of the standard. There are some dams that could come close to meeting the standard, he said, but after that, we would be spending billions of dollars to make minuscule reductions in TDG production. Gary Passmore provided additional details on tribal participation in the TDG development effort, as well as the effort to develop a TMDL for Lake Roosevelt. Jim Bellatty added a few comments about the importance of the TMDL development effort to the State of Idaho.

In response to a question from Swain, Parkin said the main reason EPA has undertaken the extremely ambitious Columbia/Snake mainstem TMDL development effort is the fact that they were sued (for not forcing the states to do TMDLs) and lost. In response to another question, Soscia referred everyone with a need for further information about the TMDL development process to the websites listed near the end of her presentation (Enclosure D).

Another participant raised a concern about the Corps VAR-Q study, and the potentially detrimental flooding impacts of VAR-Q during high-flow years. It might be good idea for those of us on the Canadian side of the border to look up the VAR-Q website, he said: http://www.epa.gov/fedrgstr/EPA-IMPACT/2001/October/day-01/i24481.htm. Another way to find the site is to type Federal Register into your search engine, he said. Given the fact that we could see three to four feet more water during a flood event, he said, you may want to inform yourself about VAR-Q, or attend one of the upcoming public meetings listed on the website.

Swain noted that the TGG is now in position to do another of the tasks laid out in the TGG workplan – namely, running the now-assembled Canadian database through the SYSTDG and Fiddler models. We would second that suggestion, said Patty Stone. In response to another question, Swain said Larry Fiddler would be one person who could input the database into his model. Another participant pointed out that such a modeling effort is not going to be cheap, so funding source immediately becomes a concern.

The group devoted a few minutes of discussion to the importance of modeling TDG transfer in Lake Roosevelt to inform some of the big-ticket gas abatement decisions coming up on both sides of the border. Soscia noted that, as part of the TMDL development process, EPA is developing a Lake Roosevelt gas model, although they have not yet decided which model to use. We would welcome anyone who wants to have input into that effort, Soscia added. We do need to get started on that effort, Schneider observed; we've been talking about it for three or four meetings now. After a few minutes of additional discussion, there was general agreement that the TGG will think about any action that may be needed beyond EPA's Lake Roosevelt dissolved gas modeling, and discuss that tomorrow.

Has someone looked at the available information from the U.S. side of the Columbia to see whether the data is adequate to support the kind of modeling effort that will be needed? another participant asked. Yes, Schneider replied; both Mike Schneider and Joe Carroll have been working to update the database and fill in some of the gaps that existed. Schneider added

that the database is updated annually by the Corps.

Day Two – October 24, 2001

8. Project 4: Existing Treaties Implications for Dissolved Gas Management in the Columbia River Basin.

A. Summary of Report. Bob Goldschmidt, a contractor hired by the TGG and the BC Ministry of the Environment to develop this paper, led this discussion. Working from a series of overheads, he touched on the issue under discussion, the agreements examined, and the following principal finding:

- Transboundary gas abatement is possible under existing treaties

Goldschmidt discussed the Columbia River Treaty and its purpose (to provide a structure for cooperative use of the Columbia River system's power and flood control resources), its administration, the dams covered by the treaty, principal rights and obligations, the flexibility that exists under the CRT, and potential conflicts. Moving on to the 1909 Boundary Waters Treaty, Goldschmidt said this document, too, supports gas abatement; he discussed the details of the treaty and their implications for the TGG. Goldschmidt also briefly referenced the Pacific Salmon Treaty, noting that it, too, supports gas abatement, and the NAFTA treaty, which he said does not apply to gas abatement.

With respect to First Nations issues, Goldschmidt said he does not see anything here that would preclude transboundary gas abatement efforts; there are, however, consultation requirements on both sides of the border. Moving on to the national laws of both countries, Goldschmidt said virtually all applicable laws share the goals of the TGG: protection of salmonid habitat. He noted that you can't use national law to violate the existing treaties; if that occurred, the offending party would be required to compensate the other side. The bottom line, said Goldschmidt, is that national laws are not an impediment to transboundary gas abatement.

He offered the following conclusions:

- Gas abatement can be accomplished without violating any laws or treaties
- Power and flood control cannot be compromised in the name of gas abatement
- Most laws and treaties support gas abatement

The group devoted a few minutes of discussion to the intricacies of the agreements covered in Goldschmidt's report. Ultimately, Swain thanked Goldschmidt for a very informative presentation.

9. Project 5: Discussion of Future Actions and Remaining Priorities from the Framework

Plan.

Chuck Rice began this portion of the agenda with a discussion of the TGG funding proposal. The purpose of this document is to provide funding for the TGG's activities, he said; it was clear to me that, particularly during yesterday's discussion of Clean Water Act and TMDL issues, there was a somewhat adversarial atmosphere in the room. What we need is an agreement that will foster cooperation, rather than disagreement, Rice said. Essentially, what I'm proposing is to expand the list of signatories, he said; these signatories would not be committing to anything other than the fact that they will be at this table. If the group agrees, he said, we could probably dispense with the idea of a subcommittee.

The group devoted a few minutes of discussion to Rice's "strawman" MOA, introduced at yesterday's meeting; the response, in general, was positive. One well-received suggestion was that states, tribes and local communities be invited to become signatories, similar to what has been done in the CRIEMP process.

Ultimately, in response to the question, "Where we go from here?" Rice replied that the first thing that needs to happen is that the strawman MOA needs to be distributed to the parties listed on the front cover, so that negotiations can begin. He noted that one issue that will need to be resolved is the limit on the number of signatories, but added that the comments he received outside of yesterday's meeting from representatives of these signatories were generally positive. One B.C. Hydro representative asked Rice to draft a short cover letter, laying out what he sees as the benefits of this agreement, to be sent out with the strawman MOA.

In response to a question from Rice, Cliff Sears and Jim Irish said they are willing to help work on this project; Dick Cassidy said he is willing to be an initial contact at the Corps of Engineers. Julia Beatty said she has a presentation on what Canada has gained through the CRIEMP process that she is willing to give upon request. In response to a request, Rice said he will notify the TGG when a meeting has been scheduled on this topic. We'll look forward to a report at the next meeting that you've gotten this all signed, Swain observed.

John Richie then addressed the question of whether or not it would be appropriate for the TGG to draft a letter of support for the proposed Brilliant expansion. The project as submitted was a 100 MW project, he said; however, we let them know that the potential range of the project is 80 to 120 MW. Three proponents have been selected; they will be submitting their designs and bids soon. In other words, said Richie, the project is moving forward well; we anticipate that the owner will want to look seriously at a 120 MW expansion. When the owner makes the decision, they will have to consider regulatory risks associated with going above 120 MW, he said; while spill would be reduced, and TGP benefit gained, if a 120 MW unit is installed, there would be potential detrimental impacts in the form of additional fluctuations in downstream water levels.

It would be helpful to have a statement of support from this group, said Richie, if such a letter is possible given the TGG's informal nature. If you can help us mitigate the regulatory risk

associated with a 120 MW expansion, he said, that might just tip the balance.

The CRIEMP and Environment Canada representatives at today's meeting said that, while they are supportive of the expansion, they would be unable to sign such a letter, because they are reviewers of the expansion project. Beatty said that, as long as she is excluded as a signatory, she would not be opposed to the TGG submitting a letter of support for the 120 MW expansion. After a brief discussion, Richie, Chris Maynard and Gary Birch agreed to draft such a letter, with help from Beatty and Swain; Dave Zimmer said the Bureau of Reclamation will also help where needed. It was further agreed that those TGG participants who are able, without conflict of interest, to sign this letter, will do so.

10. Follow-Up to Castlegar II: "Toward Ecosystem-Based Management."

Patty Stone said this major conference is scheduled for April 27-May 1, 2002, at the Spokane DoubleTree Inn and its neighboring conference center. The American Fisheries Society will also be holding its conference there at the same time. Stone went through the main sponsors for the conference, which include a broad array of governmental, tribal and private sources. We're just sending out our second call for papers, Stone said. We hope to keep the focus of the conference on transboundary issues, she said; I think we're putting together an excellent program of plenary, poster, work group and presentation sessions, as well as evening panel discussions and community presentations. This is our third transboundary conference, she said; it's going to be a big deal, and I hope you'll all be there. Stone said www.sff.bc.ca is the website through which abstracts should be submitted.

In response to a question, Stone said the anticipated attendance for the conference is 500-600. Swain asked whether it might make sense to hold the next meeting of the TGG in conjunction with the conference; one participant replied that, because the mind can only absorb what the posterior can withstand, he is opposed to this idea.

11. General Discussion and Summary from the Steering Committee.

Swain led a project-by-project discussion of next steps. With respect to Project 1, said Swain, we identified three tasks in the action plan developed last year. Task 1 has been accomplished; Task 2 (compile dissolved gas data for Boundary, Box Canyon, Albeni Falls and Cabinet Gorge Dams) has been only partially completed.

What we need is to be able to begin calibrating the screening models, Swain said – it's what Dana Schmidt has done on the Canadian side, pulling everything together and putting it into a format usable for modeling. Soscia said it sounds, to her, as though some further conversation is needed with the appropriate people at Seattle City Light and Avista. We're not opposed to doing this work, said a Seattle City Light representative; we just need to know exactly what you want and when you want it. I'll call you, said Soscia – we'll discuss the best way to proceed. Maynard said he, too, is willing to help with this task. Swain said he will

provide the template for what has been done on the Canadian side. We may be able to do this in-house at EPA, Soscia said.

It was agreed that Task 3 (compile existing data on Lake Roosevelt) should be tabled for now.

With respect to Project 2, said Swain, Task 1 has to do with identifying critical data gaps; we probably need to ask Larry Fiddler and Mike Schneider to begin this evaluation. Beatty added that Dana Schmidt will likely have some observations that will be helpful in this arena, as a result of his data compilation work. With respect to Task 2 (run the data through the SYSTDG and Fiddler models and compare their outputs), Irish said this task can be accomplished; he said the results will be presented to the TGG as soon as they are available.

Moving on to Project 3, Task 1 (identify gas abatement alternatives for various Canadian projects), Soscia asked that someone take the lead on putting together the various structural and operational abatement alternatives at each project. Soscia suggested that Keith Binkley's report from early in the TGG's existence might be a good starting-point for this task. Swain suggested that the project operators at each facility be asked to list the gas abatement alternatives under consideration at each project. As we heard yesterday, said Swain, Keenleyside Dam is done. With respect to Brilliant Dam, Richie said it should be relatively simple to develop a summary of what is feasible at that project. With respect to Waneta Dam, one participant said the only alternative under consideration is the expansion project.

Moving on to Seven Mile Dam, Birch said B.C. Hydro can produce a list of abatement alternatives for this project, although it produces very little gas. With respect to the Kootenay projects, Birch said he is willing to produce a brief report on Kootenay Canal, although, again, the project produces little gas. Another participant said her company has not yet done an evaluation of gas abatement alternatives at Upper and Lower Bonnington, but that she should be able to produce a brief description in time for presentation at the next meeting.

Moving on to the Pend Oreille projects, the Seattle City Light representative said his utility has been focusing primarily on operational alternatives at Boundary Dam; he said he is not sure whether or not it will be possible for him to produce a report on the structural alternatives at that project in time for presentation at the next TGG meeting, although it should be possible to provide a report on Boundary Dam operational alternatives at that meeting.

With respect to Albeni Falls, Soscia said she will talk to Marion Valentine at The Corps' Seattle District about structural and operational options. It was further agreed that an Avista representative be asked to attend the next meeting to discuss options at Box Canyon.

Task 3 is to summarize the structural and operational alternatives at Chief Joseph and Grand Coulee, said Swain. Soscia said she will work with COE and the tribes to develop a presentation for the next TGG meeting. We can't do Task 4 until we complete Tasks 1-3, he added.

Are there other projects we should be considering? Swain asked. One Canadian participant noted that the idea of TGP credits has been tossed around; one thing we need to know is the regulatory feasibility of this concept, he said. We also need to develop some examples of how this might work, he said; we hope to have something to present at the next TGG meeting.

12. Next TGG Meeting Date.

The next meeting of the Transboundary Gas Group was set for April 9-10 in Wenatchee, Washington. Meeting notes prepared by Jeff Kuechle, BPA contractor.